

of faunal lists of specimens by general taxonomic attribution. These include reports of the presence of tyrannosauroid, dromaeosaur, “*Richardoestesia*,” ceratopsid, “protoceratopsian,” and hadrosauroid remains. Here, we reevaluate the dinosaur fauna of the Straight Cliffs Formation based on the tooth record. We also explore stratigraphic and geologic patterns of these assemblages, within the vast paleoenvironmental and temporal (~20 million year) span of the Straight Cliffs Formation. Our comparisons with recent discoveries in mid-Cretaceous formations across the Western Interior Basin demonstrate the presence of early thescelosaurids, at least one ceratopsian (likely *Zuniceratops*-grade, rather than ceratopsid) and basal hadrosauroids (comparable to *Jeyawati* and *Eotrachodon*) in the formation. The latter findings, hailing largely from the Turonian Smoky Hollow member, invite faunal comparisons to the coeval Moreno Hill Formation of New Mexico, and open a wider window on Laramidian dinosaur diversity during the Turonian. Besides small tyrannosauroids and “*Richardoestesia*,” we also demonstrate the presence of several distinct dromaeosaurid morphotypes as well as teeth from other paravians.

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Technical Session 6: Marine Reptiles (Wednesday, October 18, 2023, 1:45 PM)

THE LAST TRIASSIC GIANT? A LATE RHAETIAN ICHTHYOSAUR FROM NEW YORK CANYON, NEVADA, USA

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Ichthyosaurs achieved their maximum size during the Late Triassic Period. The largest described genus, *Shonisaurus*, appeared in the latest Carnian and persisted into the middle Norian, though the exact timing of its extinction is not completely clear. In Europe, a series of recent publications have described disarticulated material that demonstrates that giant

shastasaurid ichthyosaurs continued into the Rhaetian, and suggests that, at least in the Tethys, large-bodied ichthyosaurs may have persisted up to the end-Triassic extinction (ETE). This material implies that the absence of late Norian and Rhaetian occurrences in North America may result from sampling bias rather than a true ecological signal.

A recent discovery in New York Canyon (NYC) in the Gabbs Valley Range of Nevada, U.S.A., provides clear evidence of the persistence of giant ichthyosaurs in Panthalassa during the Rhaetian. Previous studies have reported isolated ichthyosaur elements from NYC, but these have never been adequately studied or described. Here we report new *in situ* vertebrate fossils from the late Rhaetian of the Gabbs Formation in NYC. The specimen comprises at least 17 semi-articulated ribs and two centra from a giant ichthyosaur, comparable in size and shape to the largest known examples of *Shonisaurus*. NYC is a well-studied fossiliferous marine reference section for the ETE and Triassic-Jurassic boundary with excellent ammonite biostratigraphic and $\delta^{13}\text{C}_{\text{org}}$ geochemical controls. The bone-bearing horizon falls within the latest Rhaetian ammonite biozone for Panthalassa, the *Choristoceras crikmayi* Zone, and is just 1.7 meters below the negative $\delta^{13}\text{C}_{\text{org}}$ excursion that marks the beginning of the ETE in this section. This specimen is the youngest shastasaurid ichthyosaur and indicates that these giant ichthyosaurs did not go extinct during the Norian in Panthalassa. Instead, they likely persisted until the ETE, perishing as a casualty of the mass extinction event.

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Regular Poster Session 4 (Saturday, October 21, 2023, 4:30 - 6:30 PM)

NEW LITOPTERN (PANAMERIUNGULATA; MAMMALIA) SPECIMENS FROM LA VENTA (MIOCENE; COLOMBIA) AND ECOMORPHOLOGY OF NEOGENE HERBIVORE COMMUNITIES ACROSS THE PANAMANIAN SEAWAY

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The middle Miocene fauna of La Venta, Colombia, represents the best-known, low-latitude (i.e., tropical), Cenozoic South American mammal fauna prior to the Great American Biotic Interchange (GABI). Herein, we present new litoptern specimens from La Venta and characterize the ecomorphology of Neogene mammalian herbivore communities in the Americas to examine geographic and temporal patterns in guild structure.

New specimens of the proterotheriids *Mesolicaphrium sanalfonensis* and *Villarroelia totoyo* and the macraucheniid *Theosodon* sp. significantly increase our knowledge of these La Venta litopterns. Previously unknown elements include p1 and nearly the entire deciduous lower dentition of *M. sanalfonensis*, lower incisors of *V. totoyo*, and p4 of *Theosodon* sp.

We coded medium and large herbivores (>1 kg) from five fossil sites (including La Venta) and three modern herbivore communities for three categorical ecomorphological traits (body mass, feeding height, molar morphology) to compare the ecological structure of herbivore community. These communities vary greatly in latitude (spanning Central and South America) and in time to explore geographic differences and changes across major biotic events, including the GABI and the Pleistocene megafaunal extinction). We calculated diversity (number of species), ecological richness (number of occupied ecocells), and ecological disparity (mean distance among ecocells) to characterize community structure.

La Venta is more taxonomically diverse and ecologically disparate than the tropical pre-GABI Central American fauna of Centenario, Panama. Extratropical, pre-GABI South American faunas of Santa Cruz, Argentina, and Quebrada Honda, Bolivia, are intermediate in the three metrics between Centenario and La Venta. The tropical Pleistocene fauna of Barro do Antoniao, Brazil, is the ecologically richest and most diverse and disparate fauna in our analysis, whereas three modern faunas from Colombia and Ecuador generally resemble Centenario but are slightly more disparate (and notably less disparate than pre-GABI South American faunas). Prior to the GABI, South American herbivore communities were more ecologically disparate than those of Central America. Ecological disparity increased after the GABI but

diminished greatly in both richness and disparity following Pleistocene megafaunal extinctions.

Regular Poster Session 2 (Thursday, October 19, 2023, 4:30 - 6:30 PM)

AN UNUSUAL MIXTURE OF ONTOGENETIC STAGES OF DIPLODOCID SAUROPODS IN THE MYGATT-MOORE QUARRY ASSEMBLAGE (MORRISON FORMATION)

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Sauropod dinosaurs are common in the Upper Jurassic Morrison Formation of western North America. Fossil sauropods can be recovered as isolated remains or as several individuals in a single deposit. Multi-taxic bone beds often preserve mixed assemblages that include sauropods, with single stages of juveniles and adults occasionally preserved together. However, evidence from trackways indicates age segregation in herds of large-bodied sauropods like diplodocids. However, the presence of juveniles and adults in assemblages indicates that these herds were not geographically segregated, but instead occupied the same regions. What is unusual in the fossil record is the accumulation of multiple sizes of juveniles alongside subadults and adults in the same deposit. The occurrence of multiple sizes of juveniles has only previously been reported for the Carnegie Quarry (CQ) in eastern Utah, a high energy flood deposit that likely accumulated skeletons from a wide geographic area during the formation of the site. Here, I report on the presence of at least four ontogenetic stages at the Mygatt-Moore Quarry (MMQ) in western Colorado (Morrison Formation, Brushy Basin Member). Like CQ, the MMQ is a multi-taxic bonebed with a long history of collection. However, the MMQ represents a low-energy deposit of mud and siltstone units and is interpreted as an attritional overbank fluvial deposit impacting a relatively small geographic area. Interpreted as an autochthonous assemblage, taxa from the MMQ were likely living in the immediate area rather than individuals washed in from a wider area. Sauropod taxa identified at the MMQ include the macronarian *Camarasaurus* cf. *lentus* and *Apatosaurus* cf. *louisae*, with abundant additional diplodocid and sauropod material that is not diagnostic at the genus level. Of the two identified genera, both include juvenile and adult skeletal elements. However, *Apatosaurus* is, by